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PATENT APPLICATION

PATENT AND TRADEMARK OFFICE

BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Patrick VOHLGEMUTH et al.

On Appeal from Group: 2834

Application No.: 10/613,075

Examiner: Y. COMAS

Filed: July 7, 2003

Docket No.: 116444

For: AN ALTERNATOR

APPEAL BRIEF TRANSMITTAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached hereto is our Brief on Appeal in the above-identified application.

Also attached hereto is our Check No. 181200 in the amount of Five Hundred Dollars ($500.00) in payment of the Brief fee under 37 C.F.R. 41.20((b)(2). In the event of any underpayment or overpayment, please debit or credit our Deposit Account No. 15-0461 as needed in order to effect proper filing of this Brief.

For the convenience of the Finance Division, two additional copies of this transmittal letter are attached.

Respectfully submitted,

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Date: June 22, 2006

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BRIEF ON APPEAL

Appeal from Group 2834

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TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is Moteurs Leroy Somer, by way of an Assignment recorded in the U.S. Patent and Trademark Office at Reel 014171, Frame 0214.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 and 3-15 are pending, are rejected, and are on appeal.

Claim 2 is canceled.

IV. STATUS OF AMENDMENTS

No Amendment After Final Rejection has been filed. Therefore, this Appeal proceeds with respect to the claims as set forth in the September 20, 2005 Amendment.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention of claim 1 is directed to an electric rotary machine (e.g., alternator 1), which includes a casing (2) of elongate shape, a rotor (5) having a shaft (6) capable of turning inside the casing about an axis (X) of rotation, and a fan (9) rotated by the rotor (5), as shown in Figs. 1 and 2, for example (page 12, lines 2-17). The casing (2) includes at least one air inlet grid (e.g., grid formed by perforations 43 provided by a perforated transverse wall 14 (claim 4); Figs. 5 and 6; page 12, lines 28-31 and page 13, lines 35-36) and at least one air outlet grid (e.g., grid formed by protective bars 22 in openings 21; page 14, lines 2-17). Both the air inlet grid and the air outlet grid are made integrally with the casing (page 2, line 35-page 3, line 3; page 12, lines 34-36 and page 13, lines 16-17). The casing (2) is made as a casting (page 2, lines 32-34; page 12, lines 34-36, page 13, lines 16-17).

Claim 3 depends from claim 1 and further recites that the casing (2) is made out of injected aluminum (page 2, lines 32-34).

Claim 4 depends from claim 1 and further recites that the casing (2) has a flange (13) (Fig. 2; page 12, lines 20-24) at a first longitudinal end, and has a perforated end wall (14), (Fig. 2; page 12, lines 28-31) at a second longitudinal end opposite from the first longitudinal end, the end wall (14) being made integrally with the casing (2) and forming the air inlet grid (page 12, lines 34-36; page 13, lines 35-36).

Claim 6 depends from claim 4 and further recites that the end wall (14) includes a portion (35) in relief on an inside face serving to fix a brush carrier (30) (Fig. 4; page 15, lines 15-17).

Claim 7 depends from claim 6 and further recites that the portion in relief comprises a slideway (35), and that the brush carrier (30) is configured to be capable of sliding in the slideway (35) while being mounted in the casing (2) (Fig. 4; page 16, lines 1-7).

Claim 10 depends from claim 1 and further recites that the casing (2) has at least one grid including bars (22). Each bar (22) has a longitudinal axis extending substantially parallel to a plane perpendicular to the axis of rotation of the rotor (5) (Fig. 3; page 13, lines 11-19).

Claim 12 depends from claim 1 and further recites that the casing (2) includes extensions (18) for supporting a cover (3). The extensions (18) include air inlet openings (19), and the casing (2) has at least one opening (21) opening out to the inside of the cover (3) to enable air to be sucked in beneath it when the alternator is in operation (Fig. 3; page 13, lines 11-13).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

1) Claims 1, 10-12 and 15 are rejected as anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 5,283,490 to Nolte et al. (Nolte);

2) Claims 1 and 14 are rejected as anticipated under 35 U.S.C. §102(b) by JP Patent No. 56049648 to Kayane;

3) Claim 3 is rejected as having been obvious under 35 U.S.C. §103(a) over Nolte in view of U.S. Patent No. 4,908,538 to Geberth, Jr. et al. (Geberth);

4) Claims 4 and 5 are rejected as having been obvious under 35 U.S.C. §103(a) over Nolte in view of U.S. Patent No. 3,730,642 to Barnstead et al. (Barnstead);

5) Claims 6 and 7 are rejected as having been obvious under 35 U.S.C. §103(a) over Nolte in view of U.S. Patent No. 3,730,642 to Barnstead and further in view of U.S. Patent No. 5,717,272 to Gobled;

6) Claim 8 is rejected as having been obvious under 35 U.S.C. §103(a) over Nolte in view of U.S. Patent No. 5,182,482 to Burke;

7) Claim 9 is rejected as having been obvious under 35 U.S.C. §103(a) over Nolte in view of U.S. Patent No. 926,086 to Behrend; and

8) Claim 13 is rejected as having been obvious under 35 U.S.C. §103(a) over Nolte in view of U.S. Patent No. 6,144,137 to Engelbert.

VII. ARGUMENT

A. Claims 1, 10-12 and 15 Are Not Anticipated By Nolte et al. (Nolte)

1. Claim 1

a. Nolte does not teach or suggest claimed features

Claim 1 recites, *inter alia*, that a casing includes at least one air inlet grid and at least one air outlet grid, both of which are made integrally, understood as monolithically, with the casing, and that the casing is made as a casting. As presented during prosecution, "integrally" means "monolithically." Another term for the word "integrally" would be casting "as one piece."

As described at page 12, line 20-page 13, line 36 of the specification and shown in Fig. 1, for example, the casing 2 includes an air inlet grid (e.g., a grid formed by perforations 43 provided by a perforated transverse wall 14) and an air outlet grid (e.g., a grid formed by protective bars 22 in openings 21). As described at page 12, lines 34-36 and page 13, lines 16-17, the bearing 15 (and thus the perforated transverse wall 14) and the protective bars 22 are integrally made with the casing 2 by casting, i.e. cast as one piece. Such a structure avoids the need to fit grids on the casing, thus reducing the amount of labor needed for manufacturing, and for maintaining, the machine as described in the specification at, for example page 1, lines 25-35; page 2, lines 5-9, and 29-31; and page 3, lines 4-11.

The Final Rejection alleges that first and second end brackets 10, 11 of Nolte are formed integrally with a frame 9. However, as pointed out in the September 20, 2005 Amendment, as described at col. 4, lines 28-31 of Nolte, the end brackets 10, 11 are secured to the main frame 9 (allegedly corresponding to the casing recited in claim 1) by bolt units 8 including through bolts 19, 20, 21, 22 (col. 4, lines 35-40). Nolte specifically teaches that the through bolts 19-22 firmly interconnect the end brackets 10, 11 to the main frame 9 and provide a complete working motor. Accordingly, Nolte teaches that the main frame 9 and the

end brackets 10, 11 are separately provided and thus does not teach or suggest that the main frame 9 and the end brackets 10, 11 are integrally cast. Therefore, Nolte does not teach or suggest a casing that includes at least one air inlet grid and at least one air outlet grid, both of which are made integrally with the casing and the casing is made as a casting, as recited in claim 1. Thus, claim 1, read in light of Applicants' specification, cannot be construed as a construct where parts are made "integral" by assembly. Accordingly, Applicants respectfully submit that claim 1 is patentably distinct from Nolte.

b. The Office Action includes a clear factual error as to the teachings of the applied reference

The Response to Arguments section of the November 11, 2005, Final Rejection states that Applicants' arguments are not persuasive "because Nolte disclose[s] that in accordance with the teaching of the present invention, the standard dynamoelectric machine is constructed with integrally cast or otherwise formed ventilating openings in the end brackets of the dynamoelectric machines" (col. 2, lines 30-40). However, in this passage, Nolte only teaches that the ventilating openings may be integrally cast in the end brackets. Nolte does not teach or suggest that the end brackets are integrally cast with the frame (casing), as discussed above. Nolte's end brackets are secured to the main frame by the bolt units. Thus, the Patent Office's understanding of Nolte's teaching is incorrect, and as previously argued, Nolte does not teach or suggest the features recited in claim 1.

2. Claims 10-12 and 15

Claims 10-12 and 15 are patentable over Nolte at least for their dependency on claim 1, as well as for the additional features they recite, such as the orientation of the grid bars integrally cast as part of the casing (claim 10), and the extensions for supporting a cover, the extensions including air inlet openings in the casing (claim 12). Because in Nolte, the end brackets 10, 11, which allegedly correspond to the grids, are separate from the casing, the bars

cannot be integrally cast as part of the casing. In addition, in Nolte, the air inlet opening that enables air to be sucked in is not provided in the casing.

B. Claims 1 and 14 Are Not Anticipated By Kayane

With respect to the rejection of claims 1 and 14 under 35 U.S.C. §102(b) over JP No. 56049648 A to Kayane, the Final Rejection asserts that the feature "the casing is made as a casting" is a method of forming a device that is not germane to the issue of patentability of the device itself, and that the limitation has not been given patentable weight. This feature was originally recited in apparatus claim 2, which was addressed in the May 20, 2005, Office Action, and was incorporated into independent apparatus claim 1 by the September 20, 2005, Amendment. The original claim 2 was not rejected over Kayane.

Applicants respectfully submit that this feature clearly limits the structure of the casing, which is well understood by those skilled in the art. That is, the feature specifies that the casing is a cast body. A cast body as found in Applicants' invention may be clearly identified structurally by a metallographic examination, for example, which enables one to know the material used for making the casing, and by a surface analysis, which enables one to know the surface condition due to the mold. However, even without using such a metallographic examination or a surface analysis, one skilled in the art is able to distinguish upon viewing a piece made as a casting from a piece made from a sheet, as in Kayane, where brackets 2a, 3a are fit to a housing 1 (abstract and Figures). As such, this is indeed a structural feature, and thus, patentable weight must be given. MPEP §2113 states that process steps should be considered when... the manufacturing process steps... impart distinctive structural characteristics... see, e.g., *In re Garnaro*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979)... holding terms such as "welded,"... "press fitted,"... are capable of construction as structural limitations." A casing made as a casting certainly qualifies as a structural feature. Thus, the Office Action's position is improper.

Therefore, Applicants respectfully assert that the rejection is erroneous and request reversal of this rejection. Further, because original claim 2 was not previously rejected in the May 20, 2005 Office Action over Kayane, as described above, Applicants respectfully submit that claim 1 is patentable over Kayane, and that claim 14 is patentable over Kayane for its dependency on claim 1, as well as for the additional features it recites.

C. The Patent Office's alleged motivations for combining references are improper

Applicants respectfully submit that the Final Rejection rejects claims under 35 U.S.C. §103(a) over various combinations of references (as discussed separately below). However, the alleged motivation for the combinations is improper. That is, the Patent Office's alleged motivation is based on desirability in a vacuum. In order to establish a *prima facie* case of obviousness, the prior art must suggest the desirability of the claimed invention (MPEP §2143.01). However, such desirability is nowhere taught or suggested by any of the applied references. These rejections are entirely based on impermissible hindsight knowledge gained from Applicants' disclosure. Accordingly, the Patent Office fails to establish a *prima facie* case of obviousness. As such, these rejections are improper. Further, none of the secondary applied references overcome the deficiencies of Nolte with respect to claim 1. Therefore, even combined, the applied references do not teach or suggest each and every claimed feature. The Final Rejection did not address this issue.

For the rejection of dependent claim 3 under 35 U.S.C. §103(a) over Nolte in view of Geberth, the Office Action's alleged motivation for combining these references is "since that would have been desirable for providing a casing made of high heat conducting material" (emphasis added).

For the rejection of dependent claims 4 and 5 under 35 U.S.C. §103(a) over Nolte in view of Barnstead, again, the Office Action's alleged motivation for combining these

references is "since that would have been desirable in order to fix the end shield to the housing" (sic-emphasis added).

For the rejection of dependent claims 6 and 7 under 35 U.S.C. §103(a) over Nolte and Barnstead, in view of Gobled, again, the Office Action's alleged motivation for combining these references is "since that would have been desirable in order to provide a brush support easily replacing and cleaning of the commutator" (sic-emphasis added).

For the rejection of dependent claim 8 under 35 U.S.C. §103(a) over Nolte in view of Burke, again, the Office Action's alleged motivation for combining these references is "since that would have been desirable to permit coolant air to exit from the interior of the housing" (emphasis added).

For the rejection of dependent claim 9 under 35 U.S.C. §103(a) over Nolte in view of Behrend, again, the Office Action's alleged motivation for combining these references is "since that would have been desirable to provide direction of the air flow" (emphasis added).

For the rejection of dependent claim 13 under 35 U.S.C. §103(a) over Nolte in view of Engelbert, again, the Office Action's alleged motivation for combining these references is "since that would have been desirable [to] reduce the acoustic noise during operation of the motor assembly" (emphasis added).

Prior art references may be modified or combined to render obvious a subsequent invention if there was some suggestion or motivation to do so derived from the prior art itself, the nature of the problem to be solved, or the knowledge of one of ordinary skill in the art. *Sibia Neurosciences*, 225 F.3d at 1356; *ATD Corp. v. Lydall, Inc.* 159 F3d 534, 546 (Fed. Cir. 1998). The suggestion or motivation need not be expressly stated, *Medial Instrumentation and Diagnostics Corp. v. Electra AB*, 344 F.3d 1205, 1221 (Fed. Cir. 2003), *cert. denied*, 124 S.Ct. 1715 (2004), and the prior art need not be modified or combined for the same reasons

contemplated by the inventor, *Pfaff v. Wells Electronics, Inc.*, 123 F.3d 1429, 1439 (Fed. Cir. 1997), *aff'd*, 525 U.S. 55 (1998).

As discussed above, there is no showing of desirability of these modifications in any applied reference. In addition, none of the applied references recognizes the problems, such as that an alternator having independent pieces of a casing and grids results in increased manufacturing, or maintenance, processes and costs. Nor is there any evidence that such problems or solutions were within the contemplation of those of ordinary skill in the art. Thus, the alleged motivation is based on impermissible hindsight knowledge gained from Applicants' disclosure. Therefore, these rejections are improper.

D. Claim 3 Would Not Have Been Obvious Over Nolte in View of Gerberth.

Gerberth discloses a front motor housing 18 and a rear cover 36 that are not integrally provided to the housing assembly 20. Therefore, Gerberth does not overcome the deficiency of Nolte with respect to claim 1. Therefore, claim 3 is patentable at least for its dependency on claim 1, as well as for the additional feature it recites as neither reference teaches an integrally cast casing, let alone one of aluminum.

E. Claims 4 and 5 Would Not Have Been Obvious Over Nolte in View of Barnstead

Barnstead discloses the end 26 that is not integrally provided to the housing 12. Therefore, Barnstead does not overcome the deficiency of Nolte with respect to claim 1. Therefore, claims 4 and 5 are patentable over Nolte and Barnstead at least for their dependency on claim 1. They are also patentable for the additional features they recite. For example, claim 4 recites that the casing has a flange at a first longitudinal end, and has a perforated end wall at a second longitudinal end opposite from the first longitudinal end, the end wall being made integrally with the casing and forming the air inlet grid.

The Final Rejection admits that Nolte does not teach or suggest this feature but alleges that Barnstead does. However, in Barnstead, the end 26 is attached to the housing 12 by

screws 30, 32. That is, the end 26 is not made integrally with the housing 12 and there is no casting of a perforated end wall at one end. As such, Nolte and Barnstead in combination do not teach or suggest the features of claim 4.

F. Claims 6 and 7 Would Not Have Been Obvious Over Nolte in View of Barnstead and Further in View of Gobled

Gobled is directed to a brush support and does not disclose a configuration of casing. Therefore, Gobled does not overcome the deficiencies of Nolte and Barnstead with respect to claim 4. Therefore, claims 6 and 7 are patentable over Nolte, Barnstead and Gobled at least for their dependency on claim 4. They are also patentable for the additional features they recite. For example, none of the applied references teaches or suggests that the end wall includes a portion in relief on an inside face serving to fix a brush carrier (claim 6) or that the portion in relief comprises a slideway, and the brush carrier is configured to be capable of sliding in the slideway while being mounted in the casing (claim 7).

Moreover, none of the applied references recognizes the advantages that this configuration makes it easier to install a brush carrier and make it possible to further reduce the time taken to manufacture the machine, and that the removal of the brush carrier during maintenance is made easier.

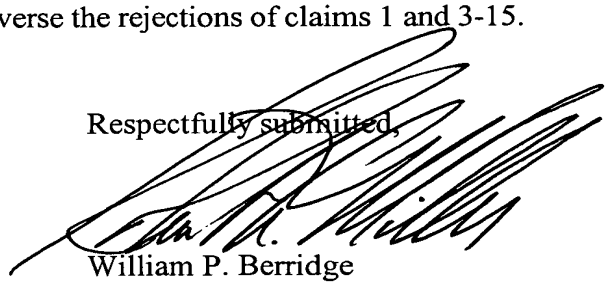
G. Claim 8 Would Not Have Been Obvious Over Nolte in View of Burke; Claim 9 Would Not Have Been Obvious Over Nolte in View of Behrend; and Claim 13 Would Not Have Been Obvious Over Nolte in View of Engelbert

None of Burke, Behrend and Engelbert discloses that the grids are integrally provided to a casing and therefore overcomes the deficiency of Nolte with respect to claim 1. Accordingly, claim 8, 9 and 13 are patentable at least for their dependencies on claim 1, as well as for the additional features they recite.

VIII. CONCLUSION

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that claims 1 and 3-15 are in condition for allowance. Thus, Appellants respectfully request this Honorable Board to reverse the rejections of claims 1 and 3-15.

Respectfully submitted,



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APPENDIX A - CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. An electric rotary machine comprising:

a casing of elongate shape;

a rotor having a shaft capable of turning inside the casing about an axis of rotation; and

a fan rotated by the rotor;

wherein the casing includes at least one air inlet grid and at least one air outlet grid, both of which are made integrally with the casing, and wherein the casing is made as a casting.

3. A machine according to claim 1, wherein the casing is made out of injected aluminum.

4. A machine according to claim 1, wherein the casing has a flange at a first longitudinal end, and has a perforated end wall at a second longitudinal end opposite from the first, the end wall being made integrally with the casing and forming the air inlet grid.

5. A machine according to claim 4, wherein the flange is made integrally with the casing.

6. A machine according to claim 4, wherein the end wall includes a portion in relief on an inside face serving to fix a brush carrier.

7. A machine according to claim 6, wherein the portion in relief comprises a slideway, and wherein the brush carrier is configured to be capable of sliding in the slideway while being mounted in the casing.

8. A machine according to claim 1, wherein the casing has two side grids made integrally with the casing and situated respectively on the left and right sides of the casing when the alternator is observed along the axis of rotation of the rotor.

9. A machine according to claim 1, wherein the casing includes at least one volute opening out to a grid.

10. A machine according to claim 1, wherein the casing has at least one grid including bars, each having a longitudinal axis extending substantially parallel to a plane perpendicular to the axis of rotation of the rotor.

11. A machine according to claim 10, wherein the bars present a radially inner side that is machined.

12. A machine according to claim 1, wherein the casing includes extensions for supporting a cover, said extensions including air inlet openings, the casing having at least one opening opening out to the inside of the cover to enable air to be sucked in beneath it when the alternator is in operation.

13. A machine according to claim 1, wherein the casing includes non-machined axial splines against which a stator rests.

14. A machine according to claim 1, wherein the casing comprises a cylindrical body and a flange, the flange having passages for fixing elements having axes situated radially outside the envelope of the cylindrical body.

15. A machine according to claim 1, constituting an alternator.

APPENDIX B - EVIDENCE APPENDIX

NONE

APPENDIX C - RELATED PROCEEDINGS APPENDIX

NONE